

Final exam review

(more like a 2nd midterm really)

① order of asymptotic functions

e.g. if given n^3+4 , $n^5+n^2+4n^2+7$

what are the $O()$'s & relative order

$$O(n^3) < O(n^5)$$

② Recurrence relations, e.g. $T(n) = T(\frac{n}{2}) + n$

solve via a) back substitution

or b) recursive expansion (telescoping)

PRACTICE THIS (see notes, see text)

③ study sorting algorithms —

quicksort, heapsort, mergesort, insertion sort
bubble sort

— be able to compare them

— which are faster, slower, which have degenerate cases

④ Graph algorithms — know Dijkstra's shortest path, Prim's MST

— be able to do these "by hand"

- be able to do these "by hand"

+

a few other questions, possibly multiple choice